DOCUMENT RESUME

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National Survey of Indexing and Retrieval Procedures in Vocational-Technical Education Research Coordinating Units.

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The study was conducted to gather information to assist Research Coordinating Units (RCU's) to develop information dissemination procedures. Questionnaires regarding procedures for indexing and retrieving information, which included 10 questions to be answered "yes", "no", or "plan to" and three open-ended items, were sent to the RCU's. Returns from the 46 approved RCU's were used in the study. Thirty-seven offered information dissemination services on request and an additional five planned to offer such services. Four of the RCU's offering dissemination services used computer services and 11 others either offering or intending to offer dissemination services planned to utilize computer services. RCU's located in universities used and planned to use computers to a greater extent than RCU's located in state departments. Only a small percentage of RCU's were using ERIC's thesaurus descriptors as a base for indexing documents, and traditional library card cataloging procedures were prevalent searching methods. Further study of the feasibility of using bound indexes where computers are not yet available and of grouping materials into broad categories was recommended. Sample materials from various RCU's are presented in the appendixes. (JK)

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NATIONAL SURVEY OF INDEXING AND RETRIEVAL PROCEDURES IN VOCATIONAL-TECHNICAL EDUCATION RESEARCH COORDINATING UNITS

- Report Prepared By -

Wisconsin Research Coordinating Unit

January 1969

Wisconsin Board of Vocational, Technical and Adult Education
137 East Wilson Street
Madison, Wisconsin 53703

V1007873

F O R E W O R D

Every profession must have a system of information storage, retrieval and dissemination. If vocational education is to remain an instrument of social change and economic well-being it must expand its capability to classify, index, store, search, retrieve and disseminate educational research, curriculum and related information.

This study was conducted to gather information which would be helpful to Research Coordinating Units in developing procedures to assist in their information dissemination function.

Sincere appreciation is expressed to the forty-six Research Coordinating Units who participated in the study.

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METHOD

A questionnaire (Appendix A) and a cover letter (Appendix B) were mailed to the RCU's during October 1968. There were forty-seven returns including the one pending approval. However, returns from the forty-six approved RCU's are used in the study.

Four respondents indicated no system in operation because of insufficient time to plan or develop an information service at the time of the survey. A follow-up letter was sent to a few RCU's who did not respond to the initial request.

Returns were tabulated in five categories: (1) RCU's who indicated they offered information services to users on request (2) RCU's who indicated they "plan to" offer information services to users on request (3) RCU's who indicated they did not offer information services to users on request (4) RCU's in colleges and universities and (5) RCU's in state departments.

Returns were tabulated in terms of responses to questionnaire items.

FINDINGS

Forty-six RCU's (100%) responded to the study. Thirty-seven (80%) of the RCU's indicated they offer information dissemination services to users on request while four (9%) indicated they did not, and five (11%) indicated they "plan to".

Table 1

NUMBER AND PERCENT OF
RESPONSES TO TEN ITEMS ON QUESTIONNAIRE BASED
UPON FORTY-SIX RETURNS

	Responses					
	Yes		No		Plan To	
	N	%	N	%	N	%
1. Does your RCU offer information dissemination services to users on request?	37	80	4	9	5	11
2. Is the above information service provided directly by the RCU?	37	80			3	7
3. Is the above information service provided indirectly through a library or some other center or organization?	8	17	29	63	2	4
4. Is a computer used to assist in the search and/or retrieval?	4	9	31	67	11	24
5. Is a data processing card used to assist in the search and/or retrieval of documents or information?	2	4	33	72	5	11
6. Is an index card (card catalogue) used to assist in search and retrieval of documents or information?	30	65	7	15	4	9

	Responses					
	Yes		No		Plan To	
	N	%	N	%	N	%
7. Are the index cards alphabetized by use of:						
a. Descriptor words	8	17	12	26	3	7
b. ERIC's Thesaurus descriptor words	7	15	14	30	5	11
c. Subject words	19	41	8	17	3	7
d. Author names	17	37	7	15		
e. Document titles	21	46	2	4		
8. Is the Dewey Decimal System used?	2	4	36	78	1	2
9. Is the Library of Congress System used?	3	7	34	74	2	4
10. Is some other system used? Describe: _____	5	11	12	26		

*NOTE: Percents are based upon 46 returns. Numbers do not add up to 46 and percents do not add up to 100% in all cases because some respondents did not respond to all items and multiple responses are possible in some items. Some RCU's who indicated "No" also indicated they "Plan to" in some cases.

Table I indicates the total number of responses with percents calculated on the basis of forty-six total RCU's. Percent figures would be higher if calculated on the basis of forty-one returns.

A somewhat surprising finding is that only seven RCU's use or plan to use ERIC's Thesaurus descriptors in the indexing system. Some explanations are that perhaps the subject index card system was established prior to ERIC. The ERIC Thesaurus may represent a commitment to a random retrieval concept which may seem costly and beyond capabilities. A lack of knowledge of the ERIC Thesaurus is another possible reason. This matter should be studied further if the ERIC system is to become an effective national information system.

RCU'S OFFERING INFORMATION SERVICES

Thirty-seven Research Coordinating Units indicated they offered information dissemination services to users on request.

Table 2 indicates their responses to questionnaire item 2-10.

Table 2

NUMBER AND PERCENT OF RESPONSES TO ITEMS 2-10 ON QUESTIONNAIRE OF THE THIRTY-SEVEN RCU'S WHO INDICATED THEY PROVIDED INFORMATION SERVICES*

Questionnaire Item	Responses					
	Yes		No		Plan to	
	No.	%	No.	%	No.	%
2. Is the above information service provided directly by the RCU?	37	100				
3. Is the above information service provided indirectly through a library or some other center or organization?	8	22	25	68	2	5
4. Is a computer used to assist in the search and/or retrieval of documents or information?	4	11	29	78	9	24
5. Is a data processing card used to assist in search and/or retrieval of documents or information?	2	5	30	81	5	14
6. Is an index card (card catalogue) used to assist in search and retrieval of documents or information?	26	70	7	19	3	8
7. Are the index cards alphabetized by use of:						
a. Descriptor words	8	22	12	32	3	8
b. ERIC's Thesaurus descriptor words	6	16	12	32	4	11
c. Subject words	18	49	7	19	2	5
d. Author names	15	41	6	16		
e. Document titles	19	51	2	5		

	Responses					
	Yes		No		Plan to	
	No.	%	No.	%	No.	%
8. Is the Dewey Decimal System used	2	5	32	86	1	3
9. Is the Library of Congress System used?	3	8	30	81	2	5
10. Is some other system used? Describe: _____	5	14	12	32		

* Percent calculations based on N = 37

All of the thirty-seven provided the information directly while eight also provided it indirectly through a library or some other center or organization.

Twenty-six (70%) RCU's indicated an index card was used to assist in search and retrieval while only two (5%) used a data processing card. The most frequent methods for arranging index cards alphabetically were subject words, author names and document titles. Only six RCU's (16%) used ERIC Thesaurus descriptor words. Five (14%) indicated some other system was used.

Comments Regarding Other System (Item 10)

These comments are from among the thirty-seven RCU's who offered information dissemination services to users on request.

KEY: U - University, S - State Department, PVT - Private

U - Arranged by classification number.

U - The uniterm system [subject word] one term per card.

S - Coordinate index cards--same as used in chemical abstracts.

U - The CDC KWIC program (Key Word In Context).

S - A locally developed list of about twenty major categories.

U - Collection limited--temporary card system used.

S - Documents are numbered from Ø1 to the number equal to the last document received.

U - Modified Dewey Decimal System.

S - System is designed similar to the one used by the American Society of Civil Engineers. Our cataloguing system is set up by state and discriptor words.

U - Vertical Topic File.

S - Classification system is composed of three parts: (1) a broad category, (2) an ERIC Voc.-Tech. Descriptor, (3) an item number, including year of classification with coding to indicate the complete classification.

S - Filed alphabetically under title of research project.

S - Requests sent to our office are checked out through ARM, AIM, ERIC, and the Educational Index.

U - Own indexing system for hard copy--RIE for Microfiche.

S - Number coding according to when reports are received.

S - Key word indexed as received.

S - Numerical.

S - No cards are used to present time. Indexes of AIM, ARM, RIE, and Higher Education are searched.

Comments Regarding Document Numbering (Item 11)

These comments are from among the thirty-seven RCU's who indicated they offered information dissemination services.

U - All documents reviewed in hard copy are given a prefix of RC. (ERIC Microfiche use prefix ED, Wisconsin bibliography series use prefix WI, etc.) A six digit number follows the prefix. The first two digits indicate source or nature of the publication. Thus, reference and bibliographical materials are classified in the 100 000 and 110 000 series; documents produced within the state are in the 200 000 series; federal government publications are in the 300 000 series; out-of-state university publications are in the 400 000 series; out-of-state commercial and private publications in the 500 000 series; periodicals, regular bulletins, newsletters, all in the 600 000 series; and career information 700 000 series.

U - Consecutively, as received into library.

S - Use EDRS #'s, CFSTI #'s, and Hard Copy numbered in sequence as received.

U - Six digit sequential numbers.

S - Not numbered at present. Library is not large enough yet.

S - ERIC, AIM and ARM System.

S - Consecutively, within each category, as acquired, eg., the first book acquired in the "Agriculture" category is AG-1.

S - By ED and VT or title.

S - Abstract file is numbered consecutively.

PVT- None used, merely grouped by subject area and primary field, e.g., "administration and supervision" - "agricultural education".

U - Dewey Decimal Classification accession.

S - Documents are numbered from # 1 to the number equal to the last document received.

S - Using the ERIC model I.E. 6 digits with a MO (Missouri) prefix in place of ED.

S - Consecutively as they are processed into the center.

U - By decimal.

U - They are numbered by subject.

S

S - Classification system is composed of three parts: (1) a broad category, (2) an ERIC Voc.-Tech. Descriptor, (3) an item number, including year of classification with coding to indicate the complete classification identity: sample identification, "GVT: PRO/PL6802" which refers to a document classified in General Vocational & Technical Education with a specific topic "Program Planning", and identified as the second such document classified in 1968.

S - Not numbered.

S - Documents on file not numbered with the exception of the ERIC material.

U - We do not number the documents. We file them according to ERIC descriptors.

S - Documents cited are numbered as listed in ERIC, ARM, and AIM.

S - In sequential order starting with 0100 for the first publications that the RCU cataloged.

S - By author, title and subject.

U - Assigned accession numbers are used if document is presently available through such a system. If not we assign our own accession #.

S - With a modified Dewey Decimal System.

S - Sequentially as received.

S - Consecutively.

S - By state.

Comments Regarding Computer Compatability (Item 12)

These comments are from among the thirty-seven RCU's who indicated they offered information dissemination services.

U - All materials are keypunched individually by classification number, and coded by descriptor words and additional codes indicating the nature of the document.

U - Untried, not computerized (2)

S - Untried, not computerized, not compatible (4).

S - Coordinate index is a compatible system. The use of the ERIC Thesaurus, author and institution index will be compatible with the national scene.

U - Alphabetical computer print out to form index. Alphabetized on every key word in title.

S - Have not investigated the computer aspect for use in the immediate future.

PVT- This idea in exploratory stage only.

U - RCU/SDI of the Tenn. RCU is the system we plan to use.

S - In the process of storing abstracts for computer retrieval. Retrieval can be by ED or MO number, or descriptor words. Up to five descriptive terms may be used to describe each document.

S - With modifications the card catalogues we are now using could be transferred to a computer program and retrieval of materials could be accomplished. Since computer service is not available to us we have not throughly investigated this procedure.

S - The cataloging and classification that has been done here with research documents organizes information records that could be computerized for eight identification of pertinent documents or for the preparation of bibliographies with extensive indexes.

S - Since the majority of our work involves ERIC, I would assume it is highly compatible.

U - Our system is not set up for use with computers. It is hoped that some system will be worked out when conditions warrant it.

S - We do not have an indexing retrieval system.

S - The present system is capable of computerization if this seems advantageous.

S - No information available at present, we are in the organizational stage.

U - The extent of compatibility will probably be limited to use of keypunch cards and mechanical sorters with maual sort during the interim until this becomes feasible.

U - We are presently retrieving in exactly the same manner as will the computer when that capacity becomes available. Our process is presently manual which of course requires a great deal of time but as mentioned it results in exactly the same results as will the computer search.

S - All documents are indexed for key words in title and given a code number as received (part of a larger system). This information is keypunched and printouts created. RCU documents can be abstracted from a much larger volume of material or left in.

S - An IBM card will be made out for each document.

General Comments and Suggestions

These comments are from among the thirty-seven RCU's who indicated they offered information dissemination services.

U - Newsletter.

U - Minnesota System may be most pertinent for your use.

U - Very effective for student use. Has been extended to include all materials in reference library of the department. Would not be too effective to use in large system.

S - We have a very small library with no microfiche and very few ERIC hand copy reports. Our system works for what we have, and little expansion is anticipated. Consequently, this questionnaire is practically irrelevant for us because collection of information is not a major function of our unit.

S - We use newsletter and oral presentations to promote information services. We also promote them with other types of brochures. No special index is sent out on ERIC, etc.

S - Our department data processing system is overtaxed and we do not see a time in the near future when we would be able to get the computer time.

S - Library is very small.

U - Contact the Tennessee RCU for details of the RCU/SDI system.

S - Our system is a very rudimentary system. There are many procedures which we would like to integrate into the system such as abstracting our accessions, cataloging by title, and author but due to lack of personnel and time, we are limited.

U - Vertical file system being established is compatible with the vertical files of the University of Nebraska Libraries. We are "cueing" in onl all the identifiers according to ERIC.

S - Our unit is still in its infancy, compounded by a very small state. Because of this situation, no organized approach to the problem has been carried out to date. We hope to improve our services of retrieval and dissemination of information in the near future--just how I don't know at this point.

S - Computer developments should be considered as important possibilities once the projected use and size of a particular collection have been carefully estimated in the context of a statewide plan for vocational education information dissemination. Existing computer applications in vocational education information centers should be studied for cost-benefit dimensions.

U - Very definite need for this type service. We hope to move into this type service in a few years. We currently use ERIC and ARM and AIM indexes--and a "mixed-up" filing system for in-state and other hard copy materials.

U - Any information which is removed from our files is first copied (cover only) and the reproduction is placed in the files in place of the original. Information regarding the whereabouts of the document is written on the copy along with the date to ensure the safe return of the document.

U - We realize we must make our system more convenient if our requests increase. We would be very interested in your findings. We do publish our own list of reports available from the RCU.

S - The Pennsylvania RCU is preparing publication entitled PAIM (Pennsylvania's Abstracts and other Related Publications , AIM and AIM). The paralleling will enable the Pennsylvania publication to be incorporated directly into the ERIC system and will permit rapid dissemination and accessibility to the abstracts. The publication will be a compilation of all the state funded (in whole or part) projects from the fiscal year 1965-66 to the present.

S - Since we are in an organizational stage, we do not have at present materials available for distribution.

U - Our file is still relatively small and manageable. I anticipate that the files of documents will continue to be set up on index cards by author and title, and classified by LC system. The ERIC Thesaurus will provide an accepted word list to punch major descriptors and LC numbers so that a sorter can be used for location of documents.

U - This office at present does not have a collection of such volume to warrant a sophisticated return system. Future plans call for such a system to be developed.

U - This questionnaire does not in the least obtain the types of information you need to "initiate an indexing and retrieval system". We have established and are operating a retrieval service which is completely compatible with the use of computers. We can identify any document in the ERIC system by either major or minor descriptor as well as combining descriptors to utilize most Boolean logic search procedures. It would be most difficult to explain this process by questionnaire or written type communications.

RCU'S PLANNING TO OFFER INFORMATION SERVICES

Five Research Coordinating Units indicated they "plan to" offer information dissemination services to users on request.

Table 3 indicates their responses to questionnaire items 2-10.

TABLE 3

NUMBER AND PERCENT OF RESPONSES TO ITEM 2-10 ON QUESTIONNAIRE OF THE FIVE RCU'S WHO INDICATED THEY "PLAN TO" OFFER AN INFORMATION DISSEMINATION SERVICE*

Questionnaire Item	Responses					
	Yes		No		Plan to	
	N.	%	N.	%	N.	%
2. Is the above information service provided directly by the RCU?					3	60
3. Is the above information service provided indirectly through a libary or some other center or organization?			4	80		
4. Is a computer used to assist in the search and/or retrieval?			2	40	2	40
5. Is a data processing card used to assist in the search and/or retrieval of documents or information?			3	60		
6. Is an index card (card catalogue) used to assist in search and retrieval of documents or information?	4	80			1	20
7. Are the index cards alphabetized by use of:						
a. Descriptor words			2	40		
b. ERIC's Thesaurus descriptor words	1	20	2	40	1	20
c. Subject words	1	20	1	20	1	20
d. Author names	2	40	1	20		
e. Document titles	2	40				

Questionnaire Item	Responses					
	Yes		No		Plan to	
	N.	%	N.	%	N.	%
8. Is the Dewey Decimal System used?			4	80		
9. Is the Library of Congress System used?			4	80		
10. Is some other system used? Describe:						

* Percent based upon N = 5

One questionnaire had very few responses. Four indicated an index card would be used. Two indicated they "plan to" use a computer to assist in search and/or retrieval. Responses in the "yes" column could indicate that information services were in existence but perhaps were not offered to users on request.

Index cards are/were to be alphabetized by ERIC's Thesaurus descriptor words, subject words and author names.

There were no comments from this group regarding other systems used.

Comments Regarding Document Numbering (Item 11)

These comments are from among the five RCU's who indicated they "plan to" offer information dissemination services to users on request.

U - File number.

$ - In development stages. Probably year-quarter-and then order; e.g. 68-4-301.

U - Consecutively.

U - Year and acquisition number.

Comments Regarding Computer Compatibility (Item 12)

These comments are from among the five RCU's who indicated they "plan to" offer information services.

S - Not at the present.

U - Yes.

U - Duplicates use of ERIC descriptor.

General Comments and Suggestions

These comments and suggestions are from among the five RCU's who indicated they "plan to" offer information services.

U - We are starting a selective dissemination of information to audiences. No evaluation to date.

S - Be interested in what you develop.

U - I have doubts about the real value of each RCU doing this as a means of dissemination.

U - Our current information dissemination is limited to information concerning research projects carried out by the RCU, and the findings of such projects. Planned is a vocational follow-up (first information available December 1968) to be part of a statewide student information service sponsored by the State Board of Education. This would all be computer-tabulated.

RCU'S NOT OFFERING INFORMATION SERVICES

The following comments are from among the four RCU's who indicated "No" to questionnaire Item # 1. No responses were indicated for items 10, 11, and 12. Following are comments and suggestions indicated in item #13.

S - Not yet in operation.

S - The Maryland RCU hopes to begin operations in January 1969. Decisions relative to the questions above have not been made.

S - We are now in the process of developing a dissemination system. I would be interested in the results of this survey.

U - I cannot get beyond your first question. We do not have a "search and retrieval" system. With only a full-time Director and a three-quarter time research associate, we do not have the staff to support such a service. We are purchasing the ERIC collections and the microfiche will be made available to faculty, staff, graduate students and other interested parties in the state through the Rhode Island College Library. While we are planning to conduct training programs for ERIC users, we do not plan to do the search for them.

DIFFERENCES DUE TO LOCATION

An attempt was made to ascertain differences in indexing and retrieval techniques due to location of the RCU's. Table 4 indicates responses in terms of RCU's located in colleges and universities as compared with those located in state departments of education.

TABLE 4
NUMBER AND PERCENTS OF RESPONSES TO QUESTIONNAIRE ITEMS IN RCU'S LOCATED IN UNIVERSITIES OR COLLEGES AND STATE DEPARTMENTS OF EDUCATION[a].

Questionnaire Item	University[b]						State Department[c]					
	Yes		No		Plan To		Yes		No		Plan To	
	N	%	N	%	N	%	N	%	N	%	N	%
1. Does your RCU offer information dissemination services to users on request?	14	70	4	20	4	20	22	85	1	4	1	4
2. Is the above information service provided directly by the RCU?	15	75	1	5	2	10	22	85				
3. Is the above information service provided indirectly through a library or some other center or organization?	1	5	15	75			6	23	15	58	2	8
4. Is a computer used to assist in the search and/or retrieval?	3	15	11	55	6	30	1	4	21	81	2	8
5. Is a data processing card used to assist in search and retrieval of documents or information?	2	10	11	55	3	15	16	42	20	77	2	8
6. Is an index card (card catalogue) used to assist in search and retrieval of documents or information?	14	70	1	5	3	15	16	62	4	15	2	8

a. Based on April 1968 Directory of RCU's and mailings received N=46
b. Includes one RCU located in private organization. Percentage calculations based on N = 20
c. Percentage calculations based on N = 26

	University[b]						State Department[c]					
	Yes		No		Plan To		Yes		No		Plan To	
	N	%	N	%	N	%	N	%	N	%	N	%
7. Are the index cards alphabetized by use of:												
a. Descriptor words	3	15	5	25	3	15	4	15	7	27	1	4
b. ERIC's Thesaurus descriptor words	3	15	5	25	4	20	5	19	8	31	1	4
c. Subject words	8	40	2	10	2	10	10	38	4	15		
d. Author names	7	35	2	10			11	42	5	19		
e. Document titles	7	35	3	15			13	50	2	8		
8. Is the Dewey Decinal System Used?	1	5	13	65	1	5	2	8	20	27		
9. Is the Library of Congress System used?	2	10	12	60	1	5	1	4	18	69	1	4
10. Is some other system used? Describe:		3	15				4	15	9	35		

b. Includes one RCU located in private organization. Percentage calculations based on N = 20
c. Percentage calculations based on N = 26

SUMMARY

A study of returns from forty-six Research Coordinating Units in vocational education in the United States in the fall of 1968 reveals thirty-seven (80%) offer information dissemination services to user groups on request. Thirty (70%) used an indexing system to assist in search for information. Alphabetizing by subject, author and title were the most common techniques employed to assist in searches.

An additional five (11%) plan to offer information dissemination services to user groups on request.

Four (9%) were using computer services while an additional 11 (24%) "plan to" use computers in retrieving information.

There were no significant percentage differences in responses due to placement of RCU in colleges and universities or state departments except that a greater percentage of RCU's located in State Departments provided information services through use of "library or some other center or organization". A greater percentage of RCU's located in universities had access to or planned to use computer and data processing equipment in providing information services.

Research findings must be disseminated to the decision maker and to the practitioner. It is just as important to disseminate the findings of research as it is to conduct the research.

The capability to project, plan, and develop vocational, technical and adult education programs depends upon the availability of relevant and reliable information and upon the efficiency of the system used in gathering and processing the information needed.

CONCLUSIONS

A surprisingly small percentage of RCU's are using ERIC's Thesaurus descriptor words as a base for indexing documents which may be an indication for further study to find reasons for this apparent lack of use and to determine how expanded use of this document could be achieved.

Traditional library card cataloging procedures are prevalent methods used to assist in searching for information.

RCU's are becoming computer conscious, as evidenced by the number indicating they "plan to" employ computers in the future.

The results of this survey are provided for whatever help they may be to "new" RCU's in making decisions regarding indexing and retrieval procedures.

Further study is needed regarding the feasibility of using various bound indexes in lieu of indexing cards where computers are not yet available.

Some storage systems employ the concept of grouping or indexing materials by major headings, divisions or broad headings. This concept requires cross referencing to facilitate retrieval. It appears that more study should be made as to the feasibility of grouping into broad categories. The question to be answered: "At what point or under what conditions is grouping feasible?"

APPENDIX "A"

- QUESTIONNAIRE -

PROCEDURES FOR INDEXING AND RETRIEVING INFORMATION
BY RESEARCH COORDINATING UNITS

State _____

Please place an "X" in appropriate column opposite each item

		Yes	No	Plan to
1.	Does your RCU offer information dissemination services to users on request?			
2.	Is the above information service provided directly by the RCU?			
3.	Is the above information service provided indirectly through a library or some other center or organization?			
4.	Is a computer used to assist in the search and/or retrieval?			
5.	Is a data processing card used to assist in the search and/or retrieval of documents or information?			
6.	Is an index card (card catalogue) used to assist in search and retrieval of documents or information?			
7.	Are the index cards alphabetized by use of:			
	a. Descriptor words			
	b. ERIC's Thesaurus descriptor words			
	c. Subject words			
	d. Author names			
	e. Document titles			
8.	Is the Dewey Decimal System used?			
9.	Is the Library of Congress System used?			
10.	Is some other system used?			

Describe: _____

11. How are documents numbered? _____

12. How is your indexing-retrieval system compatible with the use of computers?

13. Comments/Suggestions _____

Please return questionnaire and sample cards, brochures, and other descriptive materials by November 6, 1968 to:

Roland Krogstad
Research Coordinating Unit
Wisconsin Board of Vocational
Technical and Adult Education
137 East Wilson Street
Madison, Wisconsin 53703

APPENDIX "B"

TO: RCU Directors

FROM: Wisconsin Research Coordinating Unit

SUBJECT: Survey of Indexing and Retrieval Methods in RCU's

The Wisconsin RCU is about to initiate an indexing and retrieval system to be compatible with computer search. We realize a survey of information services was conducted by the Kansas RCU during the summer of 1967. However, the purpose of this survey is to ascertain how RCU's classify, index, search and retrieve information to satisfy user needs upon request.

We would appreciate your completing the enclosed one page questionnaire and submitting it by November 6, 1968 along with examples of cards and other procedural materials used. Tabulations of the results will be sent to all RCU's.

If you should desire further information, please feel free to call or write.

RJK/rg

APPENDIX "C"

EXAMPLES OF CARDS SUBMITTED BY ARKANSAS, CALIFORNIA, MONTANA, TENNESSEE

Curriculum

0	1	2	3	4	5	6	7	8	9
0010	0311	0002			0005			0078	0009
0020	0331								

California

Research and Studies in Technical Education in California Schools 0005

Vocational Education for persons with Special Needs 0003

Career Stimulation for Sixth Grade Pupils 0004

Meeting the Challenge of Planning a Sound Technical Education Curriculum 0002, ED010-076

Directory of Occupation-Centered Curriculums in California Junior Colleges and Schools for Adults 0009

Agriculture

RCU

0	1	2	3	4	5	6	7	8	9
	111	92 112 132	13 93 113 143 ED011033	84 ED01- 1034	85 245 ED011035	86	27F 87	98	99 69

Educational Needs

0	1	2	3	4	5	6	7	8	9
010190	351	372	002493	244	010015	416	001817	308	299
002500	111	012302	323	284	001935	576	002657	458	389
	00283[illegible]	353	353	374	010305	786	357	568	159
670	012301	792	333	664	535	012786	537	012788	669

APPENDIX "D"

FILE HEADINGS RELATING SPECIFICALLY TO THE AREA OF OCCUPATIONAL EDUCATION (DELAWARE)

1. Administration & Supervision
2. Bibliographies/Abstracts/Directories (Bound)
   (Single abstracts file by topic)
3. Cooperative Work Experience/Work Study
4. Delaware Studies/Statistics
5. Employment and Manpower/Needs/Trends
6. Evaluation and Measurement -
   Personnel/Programs/Tests
7. Facilities and Equipment
8. Federal Acts - Interpretation
   (State Laws - legislation)
9. Follow-up/Need Studies and Related Surveys
   (Techniques and Samples)
10. General/Basic Education
    (Remedial and Special)
11. Guidance - Counseling Techniques
    and Occupational Information
12. Innovation and Experimentation
    (Programs cross referenced by subject areas also)
13. Instructional Devices/Materials/Media/and Publication Lists
14. Philosophy and Objectives
    and General Vocational Education/Topics
15. Public Information - Public Relations Techniques
    and Samples
16. Research Design and Development
    (Techniques-Procedures)
17. Special Programs: OEO, Job Corps, MDTA, etc.

18. Special Needs: (1) Culturally/Educationally Disadvantaged
(2) Physically Handicapped (3) Mentally Handicapped

19. Students (Youth and Adults) - Characteristics and Special Studies

20. Teacher/Education and Related

21. Teaching and Learning

S-1 Agriculture Education and Related Occupations

S-2 Business and Office Education and
Related Occupations

S-3 Distributive Education and
Related Occupations

S-4 Health Occupations

S-5 Home Economics Education and
Related Occupations

S-6 Industrial Arts Education and
Related Occupations

S-7 Trade and Industry Education and
Related Occupations

S-8 Technical Education and
Related Occupations

APPENDIX "E"

CARDS SUBMITTED BY HAWAII, NORTH DAKOTA

NEBRASKA
UNIVERSITY OF, COLLEGE OF AGRICULTURE AND HOME ECONOMICS

RESEARCH SUMMARY
FACTORS RELATING TO OCCUPATIONAL AND EDUCATIONAL DECISION MAKING OF RURAL YOUTH

April 1967 40 p.

Human Resources
Bib II

COOPERATIVE EDUCATION

How High School Cooperative Trainees Fare in the Labor Market: Phase D.

Educational Research Series
Number 39
July 1967

1 copy

Index card lists Discriptor Term under which the document is filed

APPENDIX "F"

CARDS FROM KANSAS

Agan, R. J. and Bill G. Garber

"The Development and Demonstration of a Coordinated and Integrated Program of Occupational Information, Selection, and Preparation in a Secondary School." Kansas State University, Manhattan. October 1967, 73pp.

This card was located by looking up the author of the information in the Author Catolog. By finding that the information is filed in Curriculum under General.

Subject area: Curriculum
Primary Field: General

If only the title of the information is known, it may be found under the most important words subject catolog--or if there is a field or subject that is of interest this section may be of use.

Occupational Information, Selection, and Preparation Program

Agan, R. J. and Bill G. Garber. "The Development and Demonstration of a Coordinated and Integrated Program of Occupational Information, Selection, and Preparation in a Secondary School." Kansas State University, Manhattan. October 1967. 73 pp.

Subject area: Curriculum
Primary Field: General

This card reads the same as the word subject catolog card--but is found under Subject area-Primary Field Catolog.

Occupational Information, Selection and Preparation Program

Agan, R. J. and Bill G. Garber. "The Development and Demonstration of a Coordinated and Integratdd Program of Occupational Information, Selection, and Preparation in a Secondary School." Kansas State University, Manhattan. October 1967. 73 pp.

Subject Area: Curriculum
Primary Field: General #1 - note General is used when the subject area is so broad that it really doesn't fit any primary area, e.g., agricultural education.

APPENDIX "G"

CARDS FROM MICHIGAN

AUTHOR: Cook, Fred

LOCATION: Wayne State University
Detroit, Michigan

TITLE: The Need for In-School Business Data Processing Programs

June 1966
RCU Brief #11

#71

6-Wayne

LOCATION: Wayne State University
Detroit, Michigan

AUTHOR: Cook, Fred

TITLE: The Need for In-School Business Data Processing Programs

June 1966
RCU Brief #11

#71
6-Wayne

TITLE: The Need for In-School Business Data Processing Programs

AUTHOR: Cook, Fred

LOCATION: Wayne State University
Detroit, Michigan

June 1966
RCU Brief #11

#71
6-Wayne

APPENDIX "H"
INFORMATION PROCEDURES - NEW JERSEY

THE INTELLECTUAL ORGANIZATION AND THE STORAGE-RETRIEVAL PATTERNS OF THE NEW JERSEY RESEARCH AND DEVELOPMENT RESOURCE CENTER FOR VOCATIONAL EDUCATION

by
Edwin G. York

Human thought and human action are irreducible factors in information services, and deserve careful attention as one attempts to provide and improve such services.

This paper is a description of such thought and action as resource materials are organized and made available in the New Jersey Research and Development Resource Center for Vocational Education.

Three motives have prompted the appearance of this description: (1) users of the Resource Center could well benefit from such a statement; (2) the Resource Center might gain helpful suggestions from many sources; and, (3) other resource centers might benefit.

The purpose of the Resource Center is basic to the whole presentation which follows. This purpose may be stated in these terms: to provide - especially through its contact with the National Educational Resources Information Center system - resources and research assistance for New Jersey personnel involved in vocational education research and development.

Human thought and human action, as interrelated as they are, provide a polarity by which this presentation is made. The first section describes the intellectual organization of the resource center, and the second section describes the procedure by which materials are stored and retrieved.

I. The Intellectual Organization of Materials in the Resource Center

One form of intellectual organization of materials is providing access by author and title. This is the most obvious and expected form of intellectual organization and is mentioned only as a prelude to the more difficult task of providing a subject approach to materials.

The subject organization of the materials in the Resource Center is a reflection of both the currently felt needs of vocational education as it is developing in this state and also the subject content of vocational education materials reported through the ERIC system. In operational terms this means that one's subject approach to the core of the collection involves two key choices: (1) a selection from twenty-two broad categories which together incorporate the entire subject field; and, (2) a selection from about 1700 specific subject headings made available and used by the ERIC Clearinghouse on Vocational and Technical Education.

This is important information for users of the Resource Center to have because such organization controls research procedure. The user needs to decide how his research problem relates to the organizing categories of the Resource Center. Equipped with this decision, he can approach the appropriate shelf for browsing among the hard copy materials in that category, or he can approach the appropriate section of the subject card catalog for a record of such materials, gaining there the benefits of more specific subject headings and of access to materials in microfiche form.

The twenty-two broad categories chosen by the Resource Center staff as a meaningful organization of the present and anticipated needs for vocational education information in this state are as follows:

General Vocational and Technical Education
Adult Education
Agricultural Education
Apprentice Programs
Business and Office Education
Cooperative Programs
Distributive Education
Evaluation
Health Occupations
Home Economics
Industrial Arts
Introduction to Vocations
Manpower Training
Planning Programming Budgeting System
Special Needs
Statistics

Technical Education
Technology for Children
Trade and Industrial Education
Two-Year Colleges
Urban and Ghetto Education
Vocational Guidance

These broad categories have evolved from contact with Division and local personnel. Although these categories can and will be changed when there is justification through such contact, there is a practical limit to the rate and extent of such changes. Therefore, the general policy will be to include new developments in the category "General Vocational and Technical Education" until a change can be established as necessary.

The specific subject headings or "descriptors" provided and used by the ERIC Clearinghouse on Vocational and Technical Education are similar to the broad categories discussed above in being currently useful and open to change or expansion when a need is demonstrated. This Clearinghouse provided a first edition of these subject headings in 1967 on the basis of terms being used in ERIC as a whole, and of terms discovered as appropriate in providing subject access to vocational education materials.

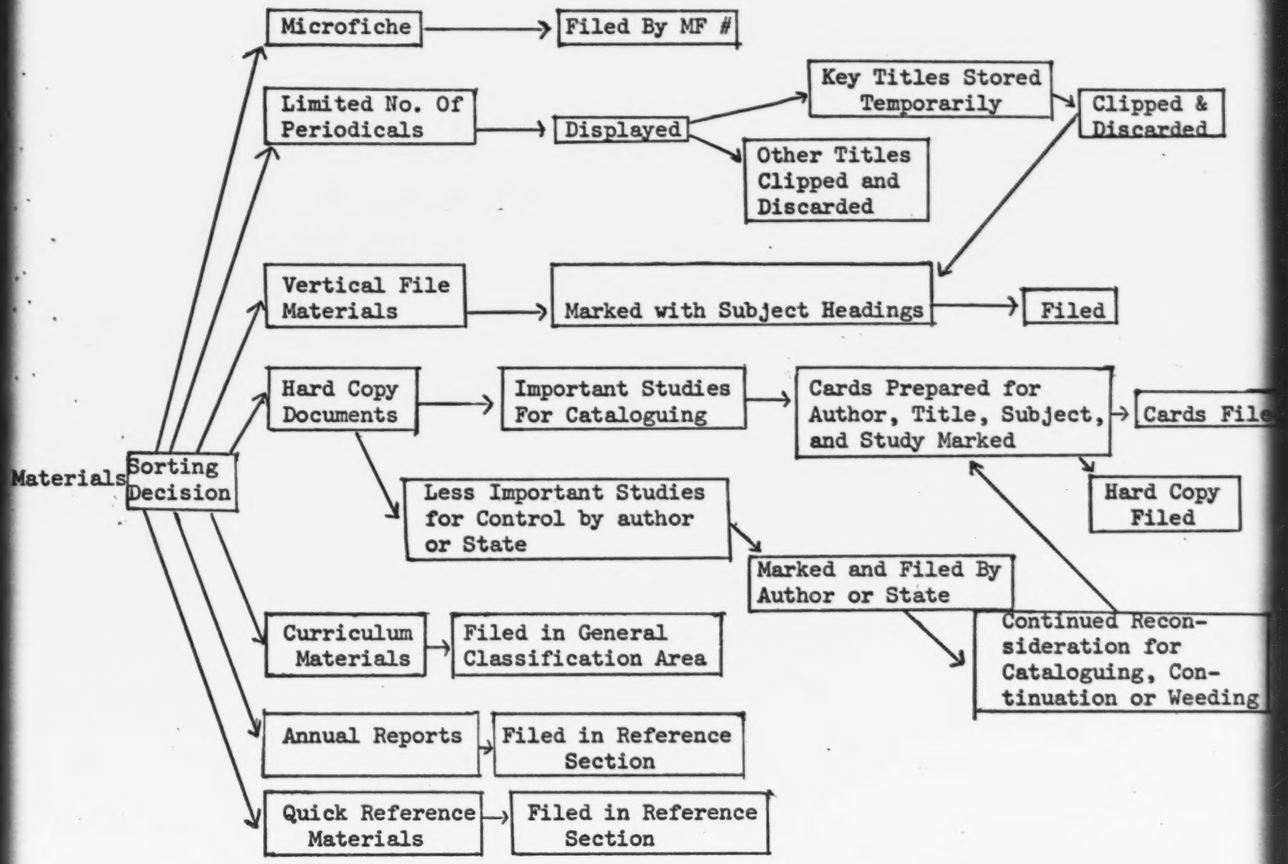
As a result of combining the broad categories especially pertinent to vocational education in this state with the specific subject headings used by a national information system, this Resource Center has a functional, flexible, and evolving intellectural organization for its materials. There is provision for continuity and change in both the needs of personnel and also in the content of materials.

II. THE STORAGE AND RETRIEVAL PATTERNS IN THE RESOURCE CENTER

For maximum control of the various kinds of materials received in the Resource Center a procedure for storage and retrieval has been developed and given representation in chart form.

The storage pattern, as shown in the chart below, provides for a basic decision by staff as to what kind of resource material a particular item is. Each type - microfiche, periodicals, small pamphlets, substantial reports of greater or lesser significance, curriculum materials, annual reports, and quick reference materials - receives appropriate treatment. Microfiche is best stored together. Periodicals own only a temporary place in the Resource Center, and are eventually clipped and discarded. Vertical file materials are conveniently stored but are expensive, temporary and only inefficiently retrieved. Hard copy documents are evaluated as either of more permanent or more temporary value and given appropriate treatment: more permanent documents are provided author-title-subject records for the card catalogs, and more temporary documents are filed by author or authorizing agency or state for simple recovery. Other materials such as curriculum guides, annual reports or reference materials are shelved in appropriate sections without concern for a record in the card catalog.

Storage Pattern



Major factors basic to the formation of such a storage procedure were: (1) retrieval needs; (2) available resources; (3) existing indexing; (4) special storage requirements of certain types of materials such as microfiche and small pamphlets; (5) space limitations; and, (6) time and staff limitations.

The retrieval pattern, as shown in the chart below, reflects a valuation of different types of materials. The materials made available by the ERIC Clearinghouse on Vocational and Technical Education in Columbus, Ohio through the AIM and ARM publications, usually in microfiche form, are assigned highest value in the collection. Next in value are important hard copy documents. Intensive retrieval capability is developed for these materials. Other types of materials are provided with more limited retrieval patterns. Control of periodical literature is only taken and researchers are related to the large collection of relevant periodicals in the State Library through a publication entitled Subject Approach to Periodicals in the State Library of Interest to Vocational-Technical Personnel.

Using the chart, users can discover when it is appropriate to check the subject catalog, author catalog, title catalog, ERIC indexes, temporary document file, a particular subject shelf or section, vertical file, browsing table, or when to phone or visit the State Library.

Major factors basic to forming this retrieval pattern were: (1) limitations implied in the storage pattern; (2) the desireability of maximum physical exposure of users and pertinent resources; (3) the desireability of independent research by users, and (4) existing indexing.

These patterns of storage and retrieval will be improved and clarified from time to time and suggestions are invited.

RETRIEVAL PATTERN

	Approach by Broad Subject	Approach by Specific Subject Heading	Approach by Author or Authorizing Agency	Approach by Title	Approach by No., Identity or Classification No.
Research documents specifically related to vocational education (AIM and ARM): microfiche or microfilm	Subject Catalog	Subject Catalog	Author Catalog	Title Catalog	Any Catalogs at left
Research documents providing a wide background in education: microfiche, and microfilm		ERIC Index	ERIC index		ERIC index
Important Research documents: hard copy	Subject Catalog	Subject Catalog	Author Catalog	Title Catalog	Any Catalogs at Left
Less Important Research documents: hard copy			Temporary Document File		
Curriculum Materials	Subject Shelf		by Rutgers Curriculum Catalog		
Reference books, annuals	Subject Shelf				
Special collections of books	Subject Shelf		Author Catalog	Title Catalog	
Vertical File of related materials	Subjects: Main filing				
Periodicals (A, B, or C) A. See current issues on reading table for browsing	by periodical title				
B. See Vertical File for clippings	Subjects: Main filing cabinet				
C. See Subject Approach to Periodicals in the State Library of Interest to Vocational-Technical Personnel and indexes in the State Library	Check: Subject Approach to Periodicals	Specific periodical index	Specific periodical index		Specific periodical index

SUBJECT, AUTHOR, AND TITLE CARDS FOR RESEARCH DOCUMENTS
(Subject card includes abstract when available. Core collection materials in microfiche form also record microfiche ED # following classification)

PROGRAM PLANNING

GVT:PRO/PL6802

DESIGNING EDUCATION FOR THE FUTURE: THE EDUCATIONAL PROGRAM

by Bebell, Clifford F.S. An Eight State Project, 1362 Lincoln Street, Denver, Colorado. July 1967, 59p.

Bebell, Clifford F.S.

DESIGNING EDUCATION FOR THE FUTURE: THE EDUCATIONAL PROGRAM.

An Eight State project, 1362 Lincoln Street, Denver, Colorado, July 1967, 59p.

GVT:PRO/PL6802

Bebell, Clifford F.S.

DESIGNING EDUCATION FOR THE FUTURE: THE EDUCATIONAL PROGRAM.

An Eight State Project, 1362 Lincoln Street, Denver, Colorado, July 1967, 59p.

GVT:PRO/PL6802

APPENDIX "I"
CARDS FROM PUERTO RICO

378.2
Ar

Arnold, Walter Martin
Federal - state cooperative activities in vocational education, by Walter Martin Arnold. Submitted to the faculty of the Graduate School of the Oklahoma Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Education. Oklahoma, Walter Martin Arnold, 1957.
223p.

102 DISSERTATIONS, ACADEMIC

378.2
Ar

Arnold, Walter Martin
Federal - state cooperative activities in vocational education, by Walter Martin Arnold. Submitted to the faculty of the Graduate School of the Oklahoma Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Education. Oklahoma, Walter Martin Arnold, 1957.
223p.

DISSERTATIONS, ACADEMIC

378.2
Ar

Federal - state cooperative activities in vocational education.
Arnold, Walter Martin
Federal - state cooperative activities in vocational education, by Walter Martin Arnold. Submitted to the faculty of the Graduate School of the Oklahoma Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Education. Oklahoma, Walter Martin Arnold, 1957.
223p.

DISSERTATIONS. ACADEMIC

378.2
Ar

DISSERTATIONS, ACADEMIC
Arnold, Walter Martin
Federal - state cooperative activities in vocational education, by Walter Martin Arnold. Submitted to the faculty of the Graduate School of the Oklahoma Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Education. Oklahoma, Walter Martin Arnold, 1957.
223p.

APPENDIX "J"
FORMS FROM TENNESSEE

Problem Specification

ORDCU Information Retrival Record
#1A

1. _____ User Code Number

2. User _____ 3. Position _____ 4. Date _____

5. Title of Literature Search: _____

6. Sources To Search	7. Depth of Search (Check One)	8. Date Results Needed
_____ ERIC _____ DDC _____ DATRIX _____ (Other)	Highly Specific ☐ Broad Coverage ☐ Number of References Desired _____	_____ 9. Time Coverage (Years) _____ To _____

10. Information Required:

1.

(Descriptor Identification)

User Code Number

ORDCU Information Retrieval Record
#1

User _____ Position _____ Date _____
Name

Purpose: _____

User Term and Definition	Thesaurus Terms
Term: _____ Definition: 2.	

Rotated	Related

DOCUMENTATION SCOPE
ORDCU Information Retrieval Record
#2

User Code Number _____

User _____ Position _____ Date _____

Purpose: _____

Selected Thesaurus Terms	Number of Documents (1) Major	(2) Minor	Selected Thesaurus Terms	Number of Documents (1) Major	(2) Minor

(Document Identification)

(Descriptor)

accession numbers

0	1	2	3	4	5	6	7	8	9

4.

(Restricting Document Identification)

ORDCU Information Retrieval Record
#2b

User_____ Position_____ Date_____
Name

Purpose:_____

Documents Identified

Descriptor Combinations	Accession Numbers
5.	

(Document Review)

ORDCU Information Retrieval Record
#3

User Code Number

User Name _____ Position _____ Date _____

Purpose: _____

Microfiche Request

Accession Number	Review	Copy	Loaned	Returned	Remarks

CHARGES FOR COPIES
(Microfiche & Hardcopy)

Name	Accession Number	# of Fiche Copies	# of Hardcopies	Charge

Major

Secondary

Tertiary

Accession Number	Accession Number	Accession Number

(OPTIONAL)

Major

Secondary

Tertiary

Accession Number

Notes

9.

(OPTIONAL)

APPENDIX "K"

TEXAS OCCUPATIONAL RESEARCH COORDINATING UNIT
LIBRARY CLASSIFICATION SYSTEM

000 GENERAL

- 010 RCU Administration and Reports
- 020 General Information
- 030 Federal and State Acts
- 040 Federal Laws Concerning Research
- 050 School Law

100 EDUCATION

- 110 Educational Methods
- 120 Human Resources
  - 121 Development
- 130 Secondary Education
- 140 Post Secondary Education
- 150 Higher Education
- 160 Educational Curricula
- 170 Educational Evaluation
- 180 Educational Administration
- 190 Adult Education

200 VOCATIONAL EDUCATION

- 210 Pre-vocational Education
- 220 Agricultural Education
- 230 Distributive Education
- 240 Homemaking Education
- 250 Industrial Education
- 260 Office Education
- 270 Vocational Information
- 280 Vocational Education in Other States
- 290 MDTA

300 TECHNICAL EDUCATION

- 310 Chemical Technology
- 320 Civil Technology
- 330 Mechanical Technology
- 340 Data Processing
- 350 Electrical Technology
- 360 Technical Information
- 370 Technical Education in Other States

400 STATISTICAL AND DEMOGRAPHIC

500 EDUCATIONAL RESEARCH INFORMATION

600 ECONOMICS

- 610 General Economics
- 620 Business Data
- 630 Manpower Data

700 TEACHER EDUCATION

800 ASSOCIATIONS AND ORGANIZATIONS

900 HEALTH EDUCATION

- 910 Nursing
- 920 Psychology
- 930 Health Careers

1000 SPECIAL EDUCATION

- 1010 Disadvantaged
- 1020 Handicapped
- 1030 Mentally Retarded